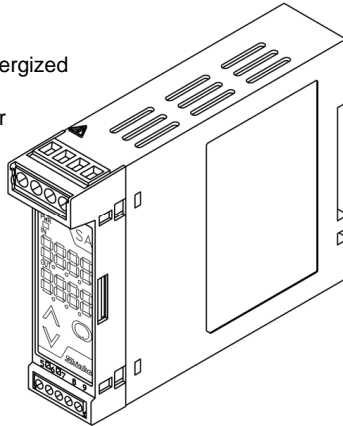


## Alarm Detector (DC current) (with indication function)

Model: **SAAA**

### ■ Features

- Scaling function
- Alarm Energized/De-energized
- Alarm Hold function
- Alarm action delay timer
- Set value lock



### ■ How to order

Specify a model. (e.g.) SAAA-0111-0

Model: SAAA - □ □ □ - □

#### Input \*1

- 01: 4 to 20mA DC
- 02: 0 to 20mA DC
- 03: 2 to 10mA DC
- 04: 0 to 10mA DC
- 05: 0 to 16mA DC
- 06: 1 to 5mA DC
- 07: 0 to 1mA DC

#### Alarm 1 output (Relay contact 1a) \*2

- 0: No alarm action
- 1: High limit alarm
- 2: Low limit alarm
- 3: High limit alarm with standby
- 4: Low limit alarm with standby

#### Alarm 2 output (Open collector) \*2

- 0: No alarm action
- 1: High limit alarm
- 2: Low limit alarm
- 3: High limit alarm with standby
- 4: Low limit alarm with standby

#### Power supply

- 0: 100 to 240V AC
- 1: 24V AC/DC

\*1: A shunt resistor is required.

\*2: The alarm type can be selected by keypad from No alarm action, High limit alarm, Low limit alarm, High limit alarm with standby and Low limit alarm with standby.

### ■ Accessories (sold separately)

Name	Model	Specification
Shunt resistor	RES-S02-050	50Ω ±0.1%
	RES-S02-100	100Ω ±0.1%
	RES-S02-200	200Ω ±0.1%
	RES-S02-01K	1kΩ ±0.1%

### ■ Input specifications

#### DC current

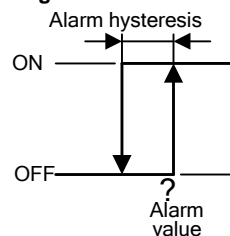
Input range	Shunt resistor (sold separately)
4 to 20mA DC	50Ω
0 to 20mA DC	
0 to 16mA DC	
2 to 10mA DC	100Ω
0 to 10mA DC	
1 to 5mA DC	200Ω
0 to 1mA DC	1kΩ

Connect a shunt resistor (sold separately) between input terminals.

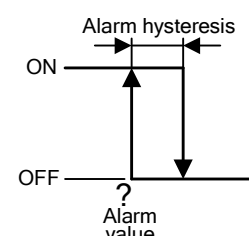
### ■ Output specifications

For Alarm 1 and Alarm 2, the alarm type can be selected respectively from High limit alarm, Low limit alarm, High limit alarm with standby, Low limit alarm with standby and No alarm.

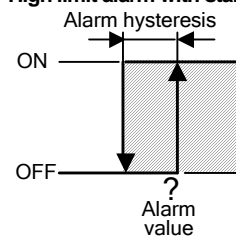
#### • High limit alarm



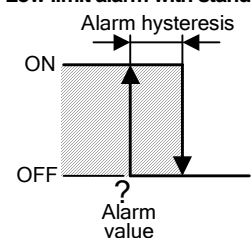
#### • Low limit alarm



#### • High limit alarm with standby



#### • Low limit alarm with standby



▨ Standby functions.

Alarm action: ON/OFF action, Alarm hysteresis: 0.1 to 100.0%FS, Delay timer: 0 to 9999sec, Energized/De-energized Alarm Holding/Not holding, Selectable

Alarm 1 output: Relay contact 1a, Control capacity; 3A 250V AC (Resistive load), 1A 250V AC (Inductive load cosφ=0.4)  
Electric life 100,000 cycles

Alarm 2 output: Open collector, Control capacity; 0.1A 24V DC

### ■ Performance

Setting accuracy : The same as the Display accuracy

Reference accuracy : Within ±0.2%

Display accuracy : Within Reference accuracy ±1 digit

Temperature coefficient: ±0.015%/°C

Response time : 1 sec or less

Insulation resistance : 10MΩ or more, at 500V DC

(Input - Output - Power)

Dielectric strength: 1500V AC for 1 minute

(Input - Alarm 1 output - Alarm 2 output - Power)

Isolation: 3-port isolation (between Input - Output - Power)

### ■ General structure

Case: Flame-resistant resin Color: Light gray

Front panel: Membrane sheet Setting: Using the front keypad

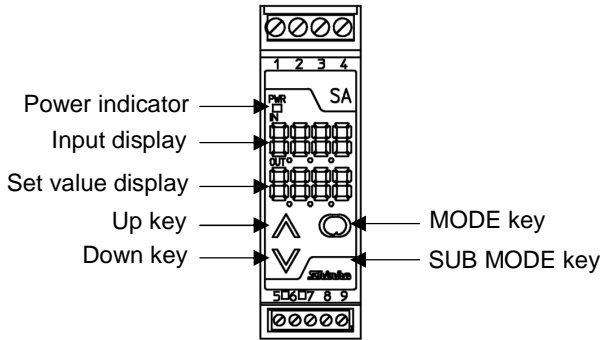
Indication: Power indicator: Green LED

Input display: 7-segment, Red LED display 4-digit

Character size, 7.4 x 4.0mm (H x W)

Set value display: 7-segment, Green LED display 4-digit

Character size, 7.4 x 4.0mm (H x W)



Alarm output status	Set value display
Alarm 1 output ON	U 100
Alarm 2 output ON	00 U2
Alarm 1, 2 outputs ON	U 1 U2

**Installation specifications**

- Power supply : 100 to 240V AC 50/60Hz  
24V AC/DC 50/60Hz
- Allowable voltage range: 85 to 264V AC, 20 to 28V AC/DC
- Power consumption : Approx. 6VA
- Ambient temperature : -5 to 55°C
- Ambient humidity : 35 to 85%RH (non-condensing)
- Mounting : DIN rail mounting
- External dimensions : 22.5 (W) x 75 (H) x 100 (D)mm
- Weight : Approx. 120g

**Attached functions**

- Power failure countermeasure:  
The data is backed up in non-volatile IC memory.
- Self diagnosis:  
The CPU is monitored by a watchdog timer, and if an abnormal status is found on the CPU, the unit is switched to warm-up status with turning all outputs off.

**Environmental specification**

RoHS directive compliance

**Settings**

**Function keys**

- (1) Up key : Increases the numeric value.
- (2) Down key : Decreases the numeric value.
- (3) MODE key : Selects the setting mode.
- (4) SUB MODE key : Press with the MODE key to select the setting mode.

**Setting items**

- Setting by pressing the MODE key for 3 seconds
  - (1) Alarm 1 value (2) Alarm 2 value
- Setting by the MODE key and SUB MODE key
  - (1) Set value lock
  - (2) Decimal point place
  - (3) Scaling low limit value
  - (4) Scaling high limit value
  - (5) Filter time constant
  - (6) Sensor correction
  - (7) Alarm 1 type
  - (8) Alarm 2 type
  - (9) Alarm 1 Energized/De-energized
  - (10) Alarm 2 Energized/De-energized
  - (11) Alarm 1 Hold function
  - (12) Alarm 2 Hold function
  - (13) Alarm 1 hysteresis
  - (14) Alarm 2 hysteresis
  - (15) Alarm 1 action delay timer
  - (16) Alarm 2 action delay timer
  - (17) Display selection
  - (18) Indication time

**Displays and indicators**

- Power indicator : The green LED lights when the power to the instrument is turned on.
- Input display : Indicates the input value.
- Under range : " - - - - " flashes on the Input display.
- Over range : " - - - - " flashes on the Input display.
- Warm-up indication: For approx. 3sec after power-on, the input type is indicated on the Input display, and Scaling high limit value is indicated on the Set value display.
- Set value display: Indicates the one which has been selected during "Display selection" mode. Indicates Alarm 1 value or Alarm 2 value. Indicates characters shown below while alarm output is on.

**Ferrules**

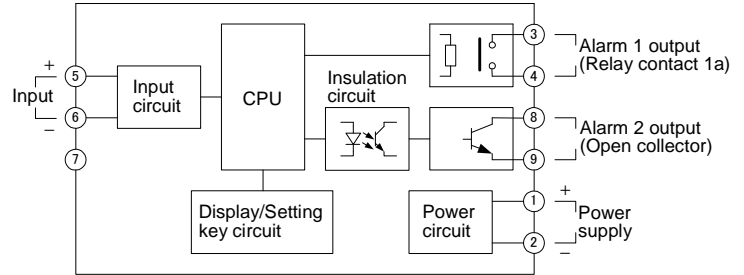
**Terminals from 1 to 4**

- Insulation sleeve attached (Phoenix Contact GMBH & CO.)
  - A10.25-8YE 0.2 – 0.25mm<sup>2</sup>
  - A10.34-8TQ 0.25 – 0.34mm<sup>2</sup>
  - A10.5-8WH 0.34 – 0.5mm<sup>2</sup>
  - A10.75-8GY 0.5 – 0.75mm<sup>2</sup>
  - A11.0-8RD 0.75 – 1.0mm<sup>2</sup>
  - A11.5-8BK 1.0 – 1.5mm<sup>2</sup>
- Crimping pliers (Phoenix Contact GMBH & CO.)  
CRIMPFOX ZA3, CRIMPFOX UD6

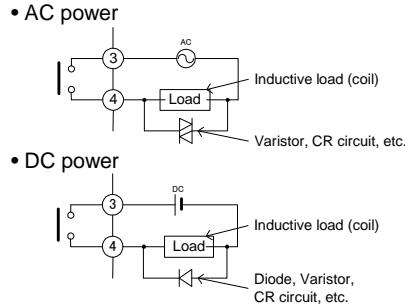
**Terminals from 5 to 9**

- Insulation sleeve attached (Phoenix Contact GMBH & CO.)
  - A10.25-8YE 0.2 – 0.25mm<sup>2</sup>
  - A10.34-8TQ 0.25 – 0.34mm<sup>2</sup>
  - A10.5-8WH 0.34 – 0.5mm<sup>2</sup>
- Crimping pliers (Phoenix Contact GMBH & CO.)  
CRIMPFOX ZA3, CRIMPFOX UD6

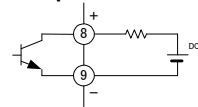
**Circuit configuration and terminal arrangement**



**Alarm 1 output: Take measures for relay protection and noise prevention as shown below.**



**Alarm 2 open collector output connection example**



**External dimensions (Scale: mm)**

